**IT Applications Unit 3, AOS 1, Online Communities**

Complete the following, from pgs 3-14

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**What is a network?**

1. Describe the role of a network.

The role of a network is to connect computers so that they can share data

1. What is groupware software? Provide an example.

Groupware software is software that allows multiple users.

1. Describe the nature of social networking sites.

Social networking sites nature is to allow users to exchange information, photos and videos.

1. What is meant by real time?

Real time means there is no delay between sending and receiving a response.

**Advantages of networks**

Elaborate under each of the following advantages of networks:

1. Resource sharing
   1. Internet connection

The convenience of having everyone connected to the internet

* 1. Printing
  2. Software
  3. Other resources including network-attached storage (NAS) servers
     1. Define a NAS server

1. Remote Services
   1. Describe how a B2B network operates.

A B2B network operates using extranet.

* 1. What is an extranet?

An extranet is a private network that operates using internet protocols and the public telephone system.

* 1. What are the advantages of a B2B situation?

The advantages are that it can reduce costs for an organisation and improve the accuracy of their data processing.

* 1. Describe the nature of EFTPOS.

Eftpos is a device which allows sales transactions to be directly to a customer’s bank account through the use of a card.

1. Data and information sharing in organisations
   1. Outline how data and information sharing occurs through networks and how this is an advantage.

It occurs by storing the file on any computer on the network provided that access has been granted. This is an advantage because it allows anyone that is connected to the network to access files that are needed. Otherwise people would require their own copy of the data.

* 1. What is meant by the process of synchronising data?

The process of synchronizing data is the process by which all users ensure that they have the same data set and that it is up to date.

* 1. How does this prevent data duplication?

It prevents data duplication because each person would have to give a copy of the updated data to all of the other users as soon as they have made any changes to it.

1. Facilitating communications
   1. How do networks facilitate communications?

It does it by allowing people to communicate easily within an organisation or with people outside of an organisation.

Types of networks, p 8

**1 Network categories**

1. Local Area Network, (LAN)
   1. Describe the nature of a LAN.

The nature of a LAN is to connect computers and devices within close geographical proximity.

* 1. How has the advent of wireless technology changed the nature of the definition of a LAN?

It has changed the nature because devices were only connected by cables within a physical location whilst now it allows devices that are located beyond the confines of a building may now form a part of the LAN.

* 1. What is a Node?

A node is the computer or device on a LAN

* 1. How are LANS typically connected?

They are typically connected by radio waves, satellite communications, microwaves and infa-red media.

* 1. Describe a wireless LAN.

A wireless LAN connects the wireless components to a wired network, to allow faster access to shared resources.

1. Wide area network, (WAN)
   1. Describe the nature of a WAN including the transmission media.

WAN is one in which communications are carried by a medium owned by someone who is not a part of the organisation whose data is being transmitted.

* 1. List the different categories of WANs
* A metropolitan area network that covers a single city.
* A state-wide network that can cover an entire state.
* A national are network.
* A worldwide network, such as an intranet.

1. **Network architecture**
2. What is meant by network architecture?

Network architecture is the ways in which computers, devices, and transmission media are connected.

Under each of the following three categories of network architecture answer the questions:

1. **Client-Server network**
   1. Describe the nature of this type of network.

This type of network requests data or files as well as sends data and files to those clients on the network who ask for them.

* 1. What is the role of a client?

The role of a client is to request data and files.

* 1. How does a server differ from an ordinary desktop computer?

The server differs from an ordinary desktop computer because the server is designed and built to handle tasks faster.

* 1. Explain what is meant by multi-tasking?

Multi-tasking is ability to process instructions from more than one program at the same time.

* 1. Describe the nature of each of the following types of servers:
     1. File server

To store files for use on client computers.

* + 1. Print server

To accept print jobs over the network.

* + 1. Database server

To hold databases and allow them to be used by many users.

* + 1. Web server

To connect devices to the internet and serve webpages to viewers upon request.

* + 1. Domain name server

To translate domain names into IP addresses.

* + 1. Proxy server

To keep a copy of all recently accessed webpages and files.

* + 1. Backup server

To act as fast back up machines on the network.

* + 1. DHCP servers

To hand out the node number to each device.

* + 1. Active directory domain controller server

To run the active directory domain services (AD DS).

* + 1. Virtual server

1. **Peer-to-peer network**
   1. Describe the nature of this network.

Its nature is to allow connected devices share files and resources.

* 1. What are the limitations of this type of network?

It’s difficult to locate which resource is available on which machine and then waiting for the machine to deliver that resource over the internet.

* 1. How does a simple home network operate?

A simple home network operates by giving priority to the person at the keyboard, making others on the network wait for a suitable gap in usage.

1. **Internet peer-to-peer network**
   1. Describe the nature of this network.

This allows people to connect to someone else’s computer over the internet.

* 1. How does a user set up for this type of network?

They must enable their computer to be used for file sharing and theirs computers need to be connected to the internet at the time.

* 1. What are the risks associated with this type of network?

Some of the risks of this type of network are malicious software which is capable of causing computers to malfunction and seize.

* 1. What is Bit Torrent?

Bit Torrent is a software application that supports internet peer-to-peer.

* 1. Complete the Think about IT, 1.5 activity on pg 13.

1. **Intranets**
   1. Define an intranet.

An intranet is an internal, secured environment that has a similar look and feel to the internet.

* 1. List the benefits of an intranet.
* Access to information in a controlled manner
* Communication between the organisation
* Messages that log hardware and software problems with technical support personal
* Contacts of who to approach for various problems and issues.
* Bi-directional mechanisms
* Training through the publication of online user guides and computer based training programs
  1. Why must an intranet reside behind a firewall?